

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:
data input means for inputting image data and storing
the image data in a memory;

5 addition means for adding a predetermined code to the
image data stored in said memory; and

control means for controlling access to said memory
by said data input means and said addition means,

wherein said control means controls said data input
10 means and said addition means so as to substantially
simultaneously execute said data input means and said
addition means.

2. The apparatus according to claim 1, wherein said
control means can arbitrarily control connection switching
15 and simultaneous operation of a plurality of components
including said data input means, said memory, and said
addition means.

3. The apparatus according to claim 2, wherein, when
said data input means and said addition means
20 simultaneously access said memory, said control means
controls the access by performing bus arbitration.

4. The apparatus according to claim 3, wherein, when
said data input means and said addition means
simultaneously access said memory, said control means stops
25 either of said data input means and said addition means by
the bus arbitration, or alternately operates said data

input means and said addition means by time division.

5. The apparatus according to claim 4, wherein said control means operates said data input means while a difference between the number of lines of image data input
5 by said data input means and the number of lines processed by said addition means does not reach a predetermined number of lines.

6. The apparatus according to claim 5, wherein the predetermined number of lines is the number of lines
10 necessary for addition of the predetermined code by said addition means.

7. The apparatus according to claim 2, wherein said control means dynamically changes a usable size in said memory in accordance with operation statuses of the
15 plurality of components.

8. The apparatus according to claim 1, wherein the predetermined code includes a code unique to the apparatus.

9. The apparatus according to claim 8, wherein said addition means adds the predetermined code in yellow.

20 10. The apparatus according to claim 1, wherein said data input means inputs image data scanned by a scanner.

11. The apparatus according to claim 1, further comprising image formation means for forming an image on the basis of the image data which is stored in said memory
25 and to which the predetermined code is added,

wherein said control means also controls access to

said memory by said image formation means.

12. An image processing system comprising:

an image input device for inputting image data;

a memory device for holding the image data;

5 an image processing apparatus for adding a
predetermined code to the image data held in said memory
device; and

a control device for controlling access to said
memory device by said image input device and said image
10 processing apparatus,

wherein said control device controls said image input
device and said image processing apparatus so as to
substantially simultaneously operate said image input
device and said image processing apparatus.

15 13. The system according to claim 12, further comprising
an image formation device for forming an image on the basis
of the image data which is held in said memory device and
to which the predetermined code is added,

wherein said control device also controls access to
20 said memory device by said image formation device.

14. A control method for an image processing apparatus
having data input means for inputting image data, addition
means for adding a predetermined code to the image data,
a memory for holding the image data, and control means for
25 controlling access to the memory by a plurality of
components including the data input means and the addition

means, comprising:

the data input step of storing the image data input by the data input means in the memory; and

the addition step of causing the addition means to
5 add the predetermined code to the image data stored in the memory,

wherein the data input step and the addition step are substantially simultaneously executed by the control means.

10 15. A control program in an image processing apparatus having data input means for inputting image data, addition means for adding a predetermined code to the image data, a memory for holding the image data, and control means for controlling access to the memory by a plurality of
15 components including the data input means and the addition means, comprising:

a code of the data input step of storing the image data input by the data input means in the memory; and

a code of the addition step of causing the addition
20 means to add the predetermined code to the image data stored in the memory,

wherein the data input step and the addition step are substantially simultaneously executed by the control means.

25 16. A storage medium which stores the program defined in claim 15.

17. An image processing apparatus comprising:

data input means for inputting image data and storing
the image data in a memory;

addition means for adding a predetermined code to the
5 image data stored in said memory; and

control means for controlling access to said memory
by said data input means and said addition means,

wherein said control means controls said data input means and said addition means so as to parallel-operate said data input means and said addition means.

18. The apparatus according to claim 17, wherein said control means can arbitrarily control connection switching and simultaneous operation of a plurality of components including said data input means, said memory, and said addition means.

19. The apparatus according to claim 18, wherein, when said data input means and said addition means simultaneously access said memory, said control means controls the access by performing bus arbitration.

20 20. The apparatus according to claim 19, wherein, when
said data input means and said addition means
simultaneously access said memory, said control means stops
either of said data input means and said addition means by
the bus arbitration, or alternately operates said data
25 input means and said addition means by time division.

21. The apparatus according to claim 20, wherein said

control means operates said data input means while a difference between the number of lines of image data input by said data input means and the number of lines processed by said addition means does not reach a predetermined number
5 of lines.

22. The apparatus according to claim 21, wherein the predetermined number of lines is the number of lines necessary for addition of the predetermined code by said addition means.

10 23. The apparatus according to claim 18, wherein said control means dynamically changes a usable size in said memory in accordance with operation statuses of the plurality of components.

24. The apparatus according to claim 17, wherein the
15 predetermined code includes a code unique to the apparatus.

25. The apparatus according to claim 24, wherein said addition means adds the predetermined code in yellow.

26. The apparatus according to claim 17, wherein said data input means inputs image data scanned by a scanner.

20 27. The apparatus according to claim 17, further comprising image formation means for forming an image on the basis of the image data which is stored in said memory and to which the predetermined code is added, wherein
said control means also controls access to said
25 memory by said image formation means.

28. An image processing system comprising:

an image input device for inputting image data;
a memory device for holding the image data;
an image processing apparatus for adding a
predetermined code to the image data held in said memory
5 device; and

a control device for controlling access to said
memory device by said image input device and said image
processing apparatus,

wherein said control device controls said image input
10 device and said image processing apparatus so as to
parallel-operate said image input device and said image
processing apparatus.

29. The system according to claim 28, further comprising
an image formation device for forming an image on the basis
15 of the image data which is held in said memory device and
to which the predetermined code is added, wherein

said control device also controls access to said
memory device by said image formation device.

30. A control method for an image processing apparatus
20 having data input means for inputting image data, addition
means for adding a predetermined code to the image data,
a memory for holding the image data, and control means for
controlling access to the memory by a plurality of
components including the data input means and the addition
25 means, comprising:

the data input step of storing the image data input

by the data input means in the memory; and

the addition step of causing the addition means to add the predetermined code to the image data stored in the memory,

5 wherein the data input step and the addition step are parallel-executed by the control means.

31. A control program in an image processing apparatus having data input means for inputting image data, addition means for adding a predetermined code to the image data,
10 a memory for holding the image data, and control means for controlling access to the memory by a plurality of components including the data input means and the addition means, comprising:

 a code of the data input step of storing the image
15 data input by the data input means in the memory; and

 a code of the addition step of causing the addition means to add the predetermined code to the image data stored in the memory,

 wherein the data input step and the addition step are
20 parallel-executed by the control means.

32. A storage medium which stores the program defined in claim 31.